

IN THE CLAIMS:

1                   20. (Currently Amended) A method for producing a  
2 stabilized enzyme emulsion for use with a polarographic or amperometric  
3 sensor comprising the steps of:

4                   making an aqueous solution of a protein, either a water soluble  
5                   enzyme that oxidizes an organic substrate to produce  
6                   hydrogen peroxide or a carrier protein;

7                   emulsifying a volume of a water immiscible oxygen dissolving  
8                   substance selected from the group consisting of  
9                   perfluorocarbons, silicone oils, fluorosilicone oils,  
10                   aromatic and aliphatic hydrocarbon oils or solids,  
11                   carotenoids and steroids into the aqueous solution to  
12                   form an emulsion;

13                   contacting the emulsion with a protein crosslinking agent; and  
14                   spreading a mixture of the protein crosslinking agent and the  
15                   emulsion into a uniform layer whereby the crosslinking  
16                   agent crosslinks the protein within the emulsion becomes  
17                   crosslinked to form a solid gel.

1                   21. (Currently Amended) The method of Claim 20,  
2                   wherein ~~to the emulsion is contacted with a~~ the aqueous solution contains a  
3                   carrier protein so that when prior to contacting the emulsion is contacted  
4                   with the protein crosslinking agent the carrier protein becomes crosslinked.

1                   22. (Currently Amended)   The method of Claim 21,  
2   wherein the aqueous solution contains the water soluble carrier protein and  
3   the water soluble enzyme and is added to the emulsion prior to contacting  
4   with the protein crosslinking agent.

23. (Cancelled).

1                   24. (Currently Amended)   The method of Claim 23 20,  
2   wherein the oxygen dissolving substance is a perfluorocarbon liquid selected  
3   from the group consisting of perfluorooctyl bromide,  
4   perfluorodichlorooctane, perfluorodecalin, perfluoroindane, perfluoro-  
5   phenanthrene, perfluorotetramethylcyclohexane, perfluoropolyalkylether oil,  
6   perfluoromethyldecalin, perfluorodimethylcyclohexane, perfluoro-  
7   dimethyldecalin, perfluorotrimethyldecalin, perfluoroisopropyldecalin,  
8   perfluoropentamethyldecalin, perfluorodiisopropyl decalin,  
9   perfluorodiethyldecalin, perfluoromethyladamantane, perfluoro-  
10   dimethyladamantane, perfluoro-di-xylethane, and perfluoro-6,7 H-undec-6-  
11   ene.

1                   25. (Currently Amended) A method for producing a  
2 stabilized enzyme emulsion for use with a polarographic sensor comprising  
3 the steps of:  
4                   making an aqueous solution of a carrier protein;  
5                   emulsifying a volume of a perfluorocarbon liquid into the  
6                   aqueous solution to form an emulsion;  
7                   contacting the emulsion with a water soluble enzyme that  
8                   oxidizes an organic substrate to produce hydrogen  
9                   peroxide to form a mixture;  
10                  contacting the mixture with a protein crosslinking agent; and  
11                  spreading a mixture of the protein crosslinking agent and the  
12                  emulsion into a uniform layer whereby the crosslinking  
13                  agent crosslinks at least the carrier protein within the  
14                  emulsion becomes crosslinked to form a solid gel.

1                   26. (Original) The method of Claim 25, wherein the  
2 oxygen dissolving substance is a perfluorocarbon liquid selected from the  
3 group consisting of perfluoroctyl bromide, perfluorodichlorooctane,  
4 perfluorodecalin, perfluoroindane, perfluorophenanthrene,  
5 perfluorotetramethylcyclohexane, perfluoropolyalkylether oil, perfluoro-  
6 methyldecalin, perfluorodimethylethylcyclohexane, perfluorodimethyldecalin,  
7 perfluorotrimethyldecalin, perfluoroisopropyldecalin,  
8 perfluoropentamethyldecalin, perfluorodiisopropyl decalin,  
9 perfluorodiethyldecalin, perfluoromethyladamantane, perfluoro-  
10 dimethyladamantane, perfluoro-di-xylethane, and perfluoro-6,7 H-undec-6-  
11 ene.

1                   27. (New) The method of Claim 25, wherein the step of  
2 contacting the emulsion with a water soluble enzyme follows the step of  
3 contacting the mixture with a protein crosslinking agent.

1                   28. (New) The method of Claim 25, wherein the protein  
2 crosslinking agent is selected from the group consisting of glutaraldehyde,  
3 carbodiimide, pyrocarbonate, imidoesters, N-hydroxysuccinimid esters and  
4 multifunctional epoxides.

1                   29. (New) The method of Claim 25, wherein the protein  
2 crosslinking agent is selected from the group consisting of glutaraldehyde,  
3 carbodiimide, pyrocarbonate, imidoesters, N-hydroxysuccinimid esters and  
4 multifunctional epoxides.

1                   30. (New) The method of Claim 21, wherein an aqueous  
2 solution of water soluble enzyme that oxidizes an organic substrate to  
3 produce hydrogen peroxide is added to the emulsion following the step of  
4 contacting with the protein crosslinking agent.